

Manufacturing Market

TM

INSIDER

inside the contract manufacturing industry

Vol. 25, No. 11

November 2015

Nine-Month Revenue Increases for Top 12

For the first nine months of 2015, revenue for the 12 largest EMS providers by total sales amounted to \$175 billion, up 6.6% year over year. This compares favorably with 2014, when the increase was only 0.9%, and to 2013, when there was a decrease of -3.1%.

Hon Hai gave a boost to top-12 sales. For the first nine months, the company experienced an increase in sales of 7.7%. Without Hon Hai, sales of the other 11 top EMS firms were only up 5.4% (Chart 1). So without Hon Hai, the increase would be worse by 1.2 percentage points.

While top-12 revenue is not all EMS — ODM, component, and other types of revenue are mixed in—the majority of it is EMS revenue, enough so that this increase serves as a rough gauge of how well the EMS industry did in the first nine months, based on the belief that the top 12 are a good bellwether for the rest of the industry.

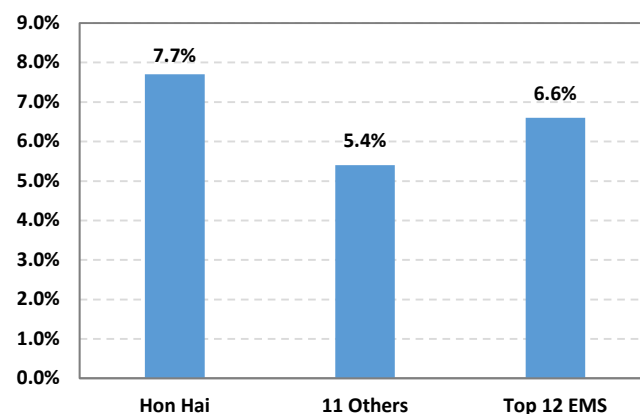
Nine-month sales results can give one a partial view of how the top-12 order will shape up at the end of the year. The first three companies in the current standings—**Hon Hai**, **Pegatron**, and **Flex** (formerly Flextronics), in that order—will easily retain those positions at year end, barring the entry of any potential new candidate. **Jabil**, **Sanmina**, and **Celestica** will remain in fourth, fifth, and sixth place, respectively. However, **Cal-Comp** is a member of the **New Kinpo Group**, whose 2015 sales might challenge those of Sanmina in the annual ranking of the *MMI* Top 50.

The next four providers are in a fairly tight cluster after nine months so it's unclear how **Cal-Comp Electronics**, **Universal Scientific Industrial (USI)**, **Plexus**, and **Shenzhen Kaifa** will finish, and according to 2015 estimates, **Benchmark** will rank ahead of **Plexus**. But the twelfth spot should go to **Venture**.

There were nine top-12 providers whose nine-month sales in US dollars increased from the year-earlier period. Pegatron, Jabil, Cal-Comp, Plexus, and USI were able to increase their sales year over year and post a double-digit gain (Table 1 below).

For the first nine months, the 12 providers together earned net income of approximately \$4.5 billion, up about 25% from a year earlier. (The net income total is approximate because not all companies follow the same accounting standard.) Nine-month sales were up by 6.6%, so net income grew faster than sales did. Net profit increases at seven companies outweighed declines at

Chart 1: Nine-Month 2015 Sales Growth Year Over Year



the five other companies. Overall net margin for the first three quarters was about 2.7%. Hon Hai contributed about 61.6% of net income for the period while generating 55.2% of sales.

Q3 sales for the top 12 totaled \$60.4 billion, up 8.3% sequentially and 5.9% year over year. Eight companies grew their sales from the prior quarter, led by Pegatron with a 33.1% increase in US dollars, Shenzhen Kaifa with 25.3%, and Flex with 13.5% double-digit growth. On a year-over-year basis, six providers, including the

Some articles in this issue

Cover Story.....	1
Nine-Month Revenue Increases for Top 12	
Results for Three Providers Based in Asia.....	2
Growth Quarter for US-Traded Group.....	4
Growth Projected for US-Traded Group.....	5
Flex Expands in Poland.....	6

Table 1: Q3 and Nine-Month 2015 Results for the 12 Largest EMS Providers (M US\$ or %)

Company (in order of 9-mo. sales)	Head- quarters	Reports in US\$	Q3 '15 sales	Q2 '15 sales	Qtr.- qtr. chg.	Q3 '14 sales	Yr.-yr. chg.	Q3 '15 net profit	Q2 '15 net profit	Q3 '14 net profit	Q1-3 '15 sales	Q1-3 '14 sales	Yr.-yr. chg.2	Q1-3 '15 net profit	Q1-3 '14 net profit
Hon Hai (Foxconn)	Taiwan	No	32,644	31,526	3.5	31,246	4.5	1,160	833	1,121	96,580	89,700	7.7	2,963	2,439
Pegatron	Taiwan	No	9,401	7,063	33.1	7,781	20.8	183	151	156	25,229	22,076	14.3	536	296
Flex	Singapore	Yes	6,317	5,566	13.5	6,529	(3.2)	123	111	139	17,835	19,895	(10.4)	369	356
Jabil	Florida	Yes	4,681	4,359	7.4	4,056	15.4	88	71	(25)	13,349	11,419	16.9	211	128
Sanmina	California	Yes	1,637	1,539	6.3	1,686	(2.9)	24	15	21	4,703	4,768	(1.3)	62	65
Celestica	Canada	Yes	1,409	1,417	(0.6)	1,423	(1.0)	11	24	34	4,124	4,207	(2.0)	55	113
Cal-Comp	Thailand	No	1,068	1,225	(12.9)	1,222	(12.6)	9	10	7	3,685	3,221	36.9	19	14
Benchmark Electronics	Texas	Yes	630	664	(5.1)	731	(13.8)	21	21	17	1,915	2,088	(8.3)	56	58
Shenzhen Kaifa	China	No	631	503	25.3	701	(10.0)	0	14	23	1,791	1,870	(4.2)	23	46
Universal Scientific Industrial	China	No	921	858	7.3	673	36.7	37	15	27	2,465	1,791	37.6	75	82
Plexus	Wisconsin	Yes	670	651	2.8	621	7.9	24	24	25	1,986	1,712	16.0	71	61
Venture	Singapore	No	487	491	(0.7)	469	3.8	29	27	28	1,422	1,422	0.0	79	80
Total/avg.			60,494	55,863	8.3	57,140	5.9	1,707	1,315	1,572	175,084	164,169	6.6	4,518	3,736
Total/avg. without Hon Hai			27,850	24,337	14.4	25,893	7.6	548	482	451	78,504	74,469	5.4	1,554	1,298

These are the 12 largest EMS providers based on total sales. Results in non-US currencies were converted to US dollars by applying a three-month average exchange rate for the corresponding quarter. Average exchange rates were based on monthly 2014 and 2015 data from the US Federal Reserve. Company net profits shown here are attributable to shareholders. Net profit totals are approximate because not all companies follow the same accounting standard.

two largest, succeeded in growing their Q3 sales. These increases, including double-digit gains at Pegatron, Jabil, and USI, more than offset the declines at the six other companies. In this quarterly comparison, the presence of Hon Hai was unhelpful. Excluding Hon Hai, Q3 growth would have been 7.6%, meaning that the EMS giant reduced by 1.7 percentage points the top 12's year-over-year growth (Chart 2).

Net income for the top 12 in Q3 amounted to approximately \$1.7 billion for a net margin of about 3.3%. Without Hon Hai, combined net margin would have been about 3%. Universal Scientific Industrial and Venture recorded net margins of 4% or better. Top-12 net income increased by about 9% year over year, with 5.9% sales growth. Seven out of 12 providers raised their Q3 net income from a year earlier; these improvements more than offset lower net income results at the remaining five companies. On a sequential basis, the top 12's net income growth in Q3 far outstripped sales growth. Net income surged about 30% quarter on

quarter, while sales increased 8.3%. The net income gains were preponderant; 7 out of 12 providers saw their net profits rise from the prior quarter (Table 1).

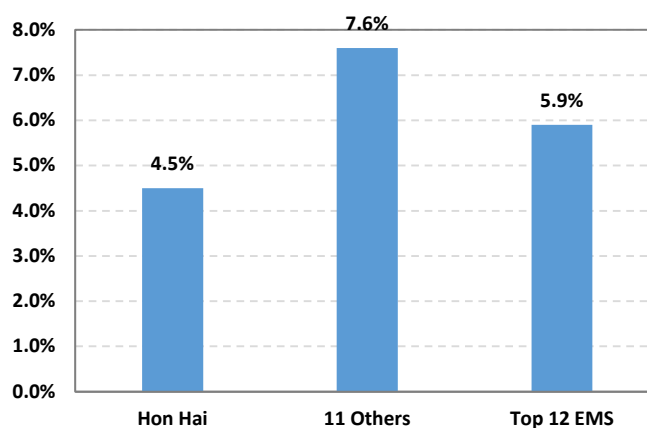
Results for Three Providers Based in Asia

Hon Hai reported 3Q15 sales of NT\$1,028 billion (+5.8% q-o-q; 8.2% y-o-y). The upside was due to higher than expected iPhone 6/6+ orders. While its 3Q15 sales growth was due to its rising orders (of both assembly and components) for iPhone 6S/6+S, game consoles (PS4/Xbox), cloud products, and non-Apple smart phone projects (FIH mobile), it attributes its rising operating margin of 3.6% (vs. 3.4/3.3% for 2Q15/3Q14) to increasing shipment scale, automation investment, and tight control of expenses (its

OPEX-to-sales ratio (OPEX %) reached 3.6% in 3Q15 vs. 3.8/3.8% in 2Q15/3Q14).

According to our latest study, total iPhone shipments (the assembly base) in 1Q16 will reach only 52 million units (-28% q-o-q, -13% y-o-y). Given **Apple's** decreasing iPhone orders and Hon Hai's lower order allocation (64%), its 1Q16 sales (NT\$987 billion) growth could come in down 32% q-o-q, or down

Chart 2: 3Q2015 Sales Growth Year Over Year



3% y-o-y. However, in the short term, its new 12" iPad Pro and 4" iPhone (2Q16) orders may help its business momentum. For the long term, we expect to see a rising profit contribution from its new investments in (a) used iPhones; (b) electric vehicles (EVs) through its partnership with **China Harmony Auto** and **Alibaba**; (c) telecom (**APT**); and (d) robots (in cooperation with **Softbank**).

Besides providing components to **Tesla**, Hon Hai has invested 10.5% in China Harmony Auto, a high-end luxury car dealership in Henan, China. Recently, Harmony has proposed to acquire **Green Field Moto**, an electric vehicle maker in Zhejiang, China. Meanwhile, Hon Hai has set up Harmony Futeng along with **Tencent** and China Harmony Auto in order to develop intelligent EVs. Another notable recent effort is in robots. In addition to making Pepper for Softbank, Hon Hai aims to add 10,000 robots per year to increase its manufacturing automation. However, all of these may not generate meaningful contributions, given Hon Hai's huge base.

Hon Hai has formed a JV (Cloudline) with **Hewlett-Packard** (HPE) in data centers and storage. The plan is to build cloud infrastructure because so many clients are intensely focused on optimizing cloud infrastructure. The JV will mainly target Internet service providers, and we see a great long-term opportunity as HPE is already the global leader in cloud infrastructure, according to *Gartner's* data.

Our checks suggest that Hon Hai's 4Q15 iPhone assembly order forecast has been cut by around 8% and now it shows around a 10% y-o-y decline. We noted earlier that there was a 10–15% downward order adjustment to the force touch supply chain companies, the purpose of which was to balance the different forecasts to different suppliers. This is because the force touch supply chain companies received a higher forecast initially due to concerns about low yield rates, but these issues have been successfully resolved.

Pegatron Corp. Following the launch of iPhone 6S, Pegatron's communications shipments grew notably in 3Q15, boosting its 3Q15 revenue significantly to NTD309.538 billion (+42.04% q-o-q; +30.77% y-o-y). However, Pegatron recognized asset impairment losses due to the depreciation of the NTD against the USD in 3Q15 and the value of its USD-denominated accounts payable being higher than that of accounts receivable. Additionally, as NTD appreciated against RMB, in which Pegatron's inventory was denominated, Pegatron recognized additional asset impairment losses. As a result, Pegatron's 3Q15 non-operating loss increased considerably. However, RMB depreciation also led to lower labor and raw material costs. Thus, Pegatron's 3Q15 gross margin (GM) nudged up. Net profit for 3Q15 reached NTD6.014 billion (+29.18% q-o-q; +26.67% y-o-y), or EPS of NTD2.31.

Capacity expansion is on track for 2016 business growth. Management reported the planned completion of its new manufacturing campus (mainly for smart phones) in Kunshan by year-end 2015, and that it would maintain the flexibility to win new orders from clients (**Apple**, **ASUSTek** and other Chinese brands) in 2016. This should ease street concerns about its insufficient capacity for Apple iPhone business (it is at full capacity for its Shanghai factories now) and support our high confidence in ongoing earnings and margin growth. We agree with Pegatron's intention to leverage its existing client base to grow new business fields (e.g., the Internet of Things, automotive products).

As China's consumption momentum weakens, 1H16 sales of the iPhone 6S series may decelerate, leading to slower iPhone inventory pull-in. Pegatron's 1H16 revenue growth momentum will likely weaken some compared with that of 1H15. However, thanks to orders for the iPhone 7 (which is expected to feature major changes), Pegatron may well gain an increasing share in Apple's OEM

orders; thus Pegatron's 2H16 revenue is expected to recover notably.

Pegatron guides for notebook units to grow 20–25% q-o-q, motherboard shipments to increase 10–15% q-o-q, and revenues from non-PC segments to grow 25–35% q-o-q. This implies 4Q15 sales of at least NT\$400 billion, supported by the strong October sales of NT\$175 billion (up 47% y-o-y and 5.5% m-o-m).

Quanta Computer, Inc. Driven by solid notebook (NB) shipments (due to Windows 10 and Skylake models sell-in) and the Apple Watch, 3Q15 sales reached NT\$276 billion (up 13% y-o-y; up 10% q-o-q). Due to a poor product mix with higher sales exposure to the low-margin MacBook and Apple Watch, the 3Q15 gross margin was 4.27% (vs. 4.50% in 3Q14 and 4.37% in 2Q15). With the soft gross margin plus higher operating expenses for new product ramp-up, the 3Q15 OP margin retreated to 1.64% (vs. 1.49% in 3Q14 and 1.78% in 2Q15).

For non-operating income, the company recognized a gain of NT\$2.6 billion, driven mainly by interest income (NT\$350 million) and FX gains (NT\$2.3 billion). Note that interest income has dropped below NT\$500 million for two quarters in a row (vs. NT\$640 million–NT\$2.0 billion during the 15 quarters prior, averaging NT\$1.2 billion per quarter). As a result, the 3Q15 pretax income margin improved to 2.58% (vs. 2.51% in 3Q14 and 1.98% in 2Q15).

Given soft PC demand, the company said it is looking for 4Q15 NB shipments to decline by a mid-single-digit percentage q-o-q. For cloud computing (including servers, tablets, Internet of Things (IoT), and wearables), the company guided for sales momentum to be sustained in 4Q15 but did not provide specific numerical guidance. In terms of margins, on a similar product mix, management expects 4Q15 operating margin to be maintained at 1.6%.

Due to an absence of innovative products and slow replacement demand, management is looking for global 2016 NB shipments to decline by a single-digit percentage. Specific to Quanta, management guided that its NB shipment growth would follow the industry trend, as there is no share to gain.

Growth Quarter for US-Traded Group

Combined Q3 sales for the six largest US-traded EMS providers rose on both a sequential and year-over-year basis, an outcome that wouldn't normally raise eyebrows. Except that this is the second time in three years that the group of six has achieved year-over-year growth in quarterly sales.

Revenue for the six providers totaled \$15.34 billion, up 8.1% sequentially and up by 2% year over year. Year-on-year growth at Plexus and Jabil outweighed declines at the other four companies, while Jabil was the only provider with a double-digit gain. The two companies also increased their sales with respect to the prior quarter, supplying most of the push for the group's sequential growth in Q3 (Table 1A below). In this comparison, Flex led the way with a double-digit increase.

Actual Q3 sales were \$1.05 billion, or 7.3%, above *MMI's* estimate for the quarter (Aug., p. 5). *MMI* based its estimates on the midpoint of each company's sales guidance for Q3. Five out of six companies reported sales above the midpoint of their guidance, with Jabil and Flex exceeding it. Benchmark Electronics showed a 3Q2015 decline of 1.9%.

Group revenue for the first nine months of 2015, combined sales came in at

\$43.91 billion and revenue fell 0.4% year over year. Just two companies, Jabil and Plexus, succeeded in growing their nine-month sales from the year-earlier period. The other companies had single-digit declines except for Flex, whose sales went down 10.4% (Table 1A).

Five out of six providers follow GAAP accounting rules, while the sixth, Celestica, adheres to IFRS reporting standards. For the five GAAP companies, only Benchmark Electronics was able to raise its gross margins sequentially, while Flex and Jabil accomplished year-over-year growth.

Benchmark and Plexus took the prize for the quarter's highest operating margin with a 4.3% result. Three out of five providers improved their operating margins from the prior quarter; Sanmina and Plexus endured declines. Compared with a year earlier, margin increases occurred at Flex, Jabil, and Benchmark. As for the lone IFRS reporting company, Celestica raised its operating margin both sequentially and year on year (Table 1A).

The collective net income of \$279.5 million increased by 16% compared to the prior quarter and sales went up by 9%. Four companies increased their net income quarter on quarter except for Benchmark Electronics.

On a year-over-year basis, net income increased by 59%, while sales rose by 2.3%. Jabil was largely responsible for this increase, though net income fell at Flex. Q3 net margin for the GAAP reporting companies was 2% sequentially.

For the first nine months of 2015, combined GAAP net income for the five companies increased by 15.1% to \$768.4 million. This increase was far better than their 0.2% decline in sales.

Chart 3: US-Traded Group 3Q2015 Sales

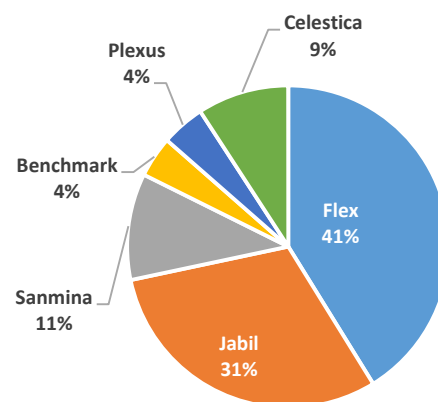


Table 1A: Q3 and Nine-Month 2015 Results for the Six Largest US-Traded EMS Providers (M US\$ or %)

Company	Q3 '15 sales	Q2 '15 sales	Qtr.-qtr. chg.	Q3 '14 sales	Yr.-yr. chg.	Q3 '15 gross marg.	Q2 '15 gross marg.	Q3 '14 gross marg.	Q3 '15 oper. marg.	Q2 '15 oper. marg.	Q3 '14 oper. marg.	Q3 '15 net inc.	Q2 '15 net inc.	Q3 '14 net inc.	Q1-3 '15 sales	Q1-3 '14 sales	Yr.-yr. chg.	Q1-3 '15 net inc.	Q1-3 '14 net inc.
Flex	6,316.8	5,566.2	13.5	6,528.5	-3.2	6.0%	6.2%	5.6%	2.6%	2.4%	2.5%	123.0	110.9	138.9	17,834.6	19,895.0	-10.4	369	356
Jabil	4,680.8	4,358.6	7.4	4,056.2	15.4	7.9%	8.5%	6.3%	3.2%	3.1%	1.8%	87.7	70.5	-25.2	13,348.8	11,419.4	16.9	211.1	127.9
Sanmina	1,636.6	1,539.3	6.3	1,686.2	-2.9	7.4%	7.8%	7.8%	3.0%	3.4%	3.9%	24.5	14.8	20.7	4,703.4	4,767.6	-1.3	61.9	64.7
Benchmark	630.2	664.0	-5.1	731.3	-13.8	8.6%	8.4%	9.2%	4.3%	4.2%	3.3%	20.6	21.2	16.9	1,915.2	2,087.5	-8.3	56.0	58.2
Plexus	669.6	651.3	2.8	620.5	7.9	8.8%	9.2%	9.4%	4.3%	4.5%	4.7%	23.8	23.6	24.6	1,985.6	1,712.0	16.0	70.5	60.6
Subtotal/avg.	13,933.9	12,779.5	9.0	13,622.7	2.3	8.4%	8.3%	8.5%	2.6%	2.2%	2.7%	279.5	240.9	175.9	39,787.6	39,881.7	-0.2	768.4	667.2
Celestica	1,408.5	1,417.3	-0.6	1,423.1	-1.0	7.0%	6.7%	7.2%	3.1%	2.8%	3.0%	10.9	24.2	34.4	4,124.3	4,207.0	-2.0	54.8	112.6
Total/avg.	15,342.4	14,196.8	8.1	15,045.8	2.0										43,911.9	44,088.7	-0.4		

All results are based on GAAP except those of Celestica, which has adopted IFRS reporting. With the exception of sales, GAAP and IFRS results are not necessarily comparable. Intangible amortization was subtracted from reported operating income. Year-to-year Change represents net income from continuing operations.

Growth Projected for US-Traded Group

If the six largest US-traded EMS providers hit the midpoint of their Q4 sales guidance, 2015 will be a good year for the group as a whole. According to *MMI's* Q4 estimates, which have been set equal to the midpoint of providers' guidance, the group's 2015 sales will increase by 3.1%.

Projected Q4 revenue of \$15.5 billion represents year-over-year growth of 3.1%. If such an increase were realized, then Q4 would be the second quarter in a row to show year-on-year growth. Two quarters would not constitute a trend, but they would show this group heading in the right direction. If the group is truly on a growth trajectory, that will be borne out in the next one or two quarters.

Estimates say Jabil will be the prime mover in the quarterly increase with a 28.4% increase at the midpoint of its guidance. *MMI's* projections also indicate that one other company, Plexus, will attain year-over-year growth in Q4 sales, eking out a slight gain. There will be declines at the four remaining companies (Table 1B).

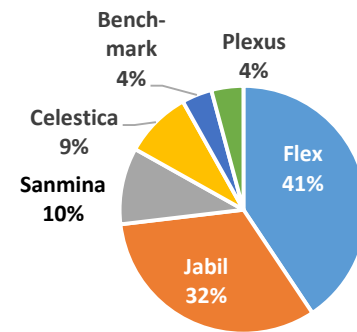
Compared with a year earlier, the group's Q4 revenue will tick upward by 5.2%, according to *MMI's* forecast.

Sequential increases at Jabil, Flex, Celestica, and Plexus offset a drop at Sanmina (Table 1B).

Guidance suggests that adjusted EPS for Q4 will improve sequentially at Jabil, and at the midpoint of its guidance, the growth would be 50.9%. One can also infer from guidance that Plexus can expect a sequential decline in its adjusted Q4 EPS. At the midpoint of its guidance, the decrease would be 2.9%. No conclusions can be drawn from the guidance issued by the other four providers.

On a year-over-year basis, Q4 guidance implies that adjusted EPS will rise at Flex, Jabil, Sanmina, and Celestica, with increases of 18.2%, 1,500%, 119.3%, and 30.4%, respectively, at the midpoint of their guidance. Guidance also suggests that adjusted EPS in Jabil's quasi-Q4 (the November quarter) will increase from a year earlier. Inferences can be made from the guidance of the other two providers wherein at the midpoint of their guidance, Benchmark's and Plexus's adjusted EPS would decline by 8.3% and 11.1%, respectively.

Chart 4: US-Traded Group Estimated Sales for 4Q2015



Company News

LIAD Electronics Further Invests in Manufacturing Efficiency

EMS provider **LIAD Electronics** (Netherlands) is implementing **Siemens' Unicam** as its key Manufacturing Execution Systems (MES) tool for its production plant in Breda in the Netherlands.

Having made investments in a new P&P line from JUKI (delivered by W&S Benelux) and an all-in-one material storage (Dry Tower Quattro from Totech), LIAD Electronics has now turned its focus

Table 1B: Q4 2015 Guidance and Estimates for the Six Largest US-Traded Providers (sales in B\$ except as noted)

Company	Q4 '15 guidance	Q4 '15 midpoint	Q3 '15 sales	Qtr.-qtr. estim. chg. (%)	Q4 '14 sales	Yr.-yr. estim. chg. (%)	Q4 guidance adj. EPS* \$	Q4 EPS midpoint \$	Q3 '15 adj. EPS* \$	EPS Q-Q chg. at midpoint	Q4 '14 adj. EPS* \$	EPS Y-Y chg. at midpoint
Flex	6.2–6.8	6.5	6.3	3.2	7	–7.1	0.28–0.34	0.31	0.27	14.8	0.26	18.2
Jabil	5.1–5.3	5.2	4.6	13.0	4.1	28.4	0.72–0.88	0.80	0.53	50.9	0.05	1,500.0
Sanmina	1.55–1.60	1.6	1.6	–1.6	1.7	–5.7	0.56–0.60	0.58	0.57	1.8	0.26	119.3
Celestica	1.375–1.475	1.4	1.4	0.4	1.4	–0.3	0.27–0.33	0.30	0.22	36.4	0.23	30.4
Benchmark	620–640 M	0.63	0.63	0.0	0.7	–10.0	0.39–0.43	0.41	0.41	0.0	0.45	–8.3
Plexus	650–680 M	0.67	0.66	0.8	0.66	0.8	0.64–0.72	0.68	0.70	–2.9	0.77	–11.1
Total/avg.		16.00	15.21	5.2	15.51	3.1						

Q4 estimates equal midpoint of Q4 guidance. 2015 estimates equal nine-month sales plus midpoint of Q4 guidance. *Adjusted EPS may not be comparable from company to company.

to its Manufacturing Operations Management (MOM) system.

The Siemens Unicam eMES solution will be the center of control and intelligence, integrating all logistics data with shop floor manufacturing data, resulting in complete material, printed circuit board assembly/box building, and process traceability, reports *Evertiq*.

OSI Systems Receives Order for RTT Screening Systems

HTDS, OSI Systems' French distributor for **Rapiscan Systems**, has received a multiyear framework contract to provide the RTT 110 (Real Time Tomography) explosives detection system (EDS) to Charles de Gaulle and Orly international airports in France.

The company stated that it has received an initial order to deliver four units, and that it has not received any indication of additional orders under this framework agreement at this time, as reported by *Evertiq*.

10 Production Lines Moved from Germany to Romania

TT electronics' (United Kingdom) ongoing "Operational Improvement Plan (OIP)" is under way and according to TT it is moving along with good progress. However, this has meant the move of a number of production lines.

Within the OIP the company has completed the transfer of ten lines, with nine of them customer qualified. Transfer and qualification of a further two lines is scheduled for the first half of 2016. The final four lines will remain in Germany, with the transfer of production to Romania expected to be concluded by the end of the first half of 2016.

As a result, TT expect the costs of the program to be around £25 million (€35 million), approximately £5 million less than originally anticipated.

Flex Expands with New Facility in Poland

Flex (Singapore) has opened a new logistics and manufacturing center in

the Industrial Park in Tczew, Poland. Construction of the new center, its third building in Tczew, started in 2014; now that it's finished it spans over 9,300 square meters.

The facility has been focused on the final stages of production, storage, and management of goods, as well as on distribution of products manufactured in the company's two existing production halls in the region.

By moving the warehouse into the newly created manufacturing and logistics center, Flex frees up additional production space in its two existing production halls. Of these two original buildings, one is focused on electronics manufacturing and the other on manufacturing metal parts.

Celestica and CERN Team Up to Enable Research for the Large Hadron Collider

In collaboration with international researchers from the ATLAS experiment at **CERN** (European Organization for Nuclear Research) and the University of Toronto, **Celestica** (Canada) has produced a radiation-hard sensor for the Large Hadron Collider.

A prototype of the radiation-hard sensor, assembled at Celestica's Microelectronics Lab and tested at the University of Toronto's High Energy Physics detector lab, is a complex device that consists of 20 large electronic computer chips attached to a printed circuit board by 2,500 wires smaller than a human hair. The technology used in the sensor can also have a range of applications, including medical imaging and electronics in satellites.

PartnerTech to Restructure Operations in Norway

PartnerTech AB's Norwegian subsidiary, PartnerTech AS (Sweden), has informed representatives of the company's personnel groups about its intention to restructure its operations in Moss, Norway.

The Norwegian subsidiary will initiate

a negotiation process with representatives of the personnel groups.

The option of discontinuing production at the factory will also be discussed in the negotiations. The restructuring negotiations concern all personnel in PartnerTech AS.

The negative impact on earnings resulting from a possible factory closing is estimated at approximately €-7.5 million.

Benchmark Electronics Completes Secure Technology Acquisition

Benchmark Electronics (Angleton, TX) has completed its acquisition of **Secure Communication Systems, Inc.** and its subsidiaries for a purchase price of \$230 million.

The acquisition of Secure deepens Benchmark's engineering capabilities and enhances the company's ability to serve customers in the industrial, aerospace, and defense markets.

The transaction was financed with borrowings under the company's new credit facility, which comprises a \$230 million term loan and a \$200 million revolving loan.

Norautron Group Acquires Hatteland Display

Norwegian EMS provider **Norautron Group** has entered into an agreement to acquire 100% of the maritime display and computer manufacturer **Hatteland Display** from Herkules Capital.

Including Hatteland Display, the Norautron Group will have an estimated annual turnover of approximately NOK1.8 billion (€193 million) and will be a significant player within several segments of the electronics industry, with positions in markets for complete products and components.

The management teams of Norautron Group and Hatteland Display will work together in the near future to establish a platform for continued growth and development.

Hanza Invests in New Production Equipment

EMS provider **Hanza** (Sweden) has completed an equipment investment of approximately €1.1 million to meet increased demand.

This means a production package in the mechanical engineering sector, which includes two CNC grinding machines, purchased with the intention of increasing capacity for new products.

The new machinery is to be installed in the fourth quarter of 2015 at Hanza's mechanics factory in Årjäng.

New Head of Incap's Operations in Estonia

Otto Pukk has been appointed as Managing Director of **Incap's** Estonian operations as of 17 November 2015. Most recently he acted as CEO of **Eesti Energia Technology Industries** (Enefit). Before that he held different managerial positions in the **ETAL Group** (ElektronikGruppen BK AB) in Baltic countries, Finland, and Asia.

Otto Pukk has also been appointed to the management team of Incap Group.

Orbit One Didn't Settle for Just Flex's Facility

The manufacturing facility in Ronneby wasn't enough, so Swedish EMS provider Orbit One has now also recruited the former vice president of **Flex SBS**, Mattias Lindhe. With the acquisition of Flex's facility in Ronneby, Sweden, Orbit One has become one of the biggest EMS providers in Scandinavia. Mattias Lindhe will be responsible for the integration of the new manufacturing unit into Orbit One's existing operations.

Orbit One's five manufacturing units are spread out around the Baltic Sea. Three are in Sweden (Stockholm and now two in Ronneby), one is in the Polish city of Prabuty, south of Gdansk, and one is in Slavsk, in Russia, as reported by *Evertiq*.

Orbotech Enters Solder Mask Direct Imaging Segment

Orbotech (Israel) is entering the solder mask direct imaging segment with the introduction of a new family of direct imaging (DI) solutions for printed circuit board (PCB) solder masks.

Direct imaging, one of the methods utilized in imaging solder mask layers, is an increasingly important segment for Orbotech, which it currently estimates at between \$70 million and \$90 million per annum.

Orbotech's new solutions, which include the Orbotech Diamond and the Nuvogo 1000, aim to accelerate and increase the overall quality and efficiency of PCB solder mask production processes. The Orbotech Diamond DI system addresses the solder mask manufacturing needs of the high-density interconnect (HDI) and multilayer board (MLB) segments of the PCB industry by offering high power and throughput. Beta site testing by three different customers in different geographical regions has resulted in orders from all three PCB manufacturers.

Plexus to Close Fremont, California Facility

EMS provider **Plexus** (Neenah, WI) will close its Fremont, California manufacturing facility. The closure of the 46,000-square-foot facility is expected to result in the "separation" of approximately 200 employees.

The company is expecting restructuring charges related to the closure of about \$3–5 million, beginning in the first quarter of fiscal year 2016. Plexus plans to move the customer programs from its Fremont facility to other Plexus sites, and complete the transition by the end of its fiscal third quarter.

Once fully implemented, these actions are expected to generate approximately \$7.0 million in annual savings, the company writes in a press release.

Kimball Electronics Opens Manufacturing Facility in Romania

Kimball Electronics (Jasper, IN) has officially opened a new facility in Romania, located in Olympia Park, Remetea Mare, near the Timisoara airport.

The site includes a 6,150-square-meter facility that will contain multiple production lines, an engineering and quality laboratory, and warehouse space.

Production will begin before the end of the calendar year. Products will begin shipping during the first quarter of calendar year 2016.

The new Kimball Electronics – Romania facility will serve customers in the automotive, industrial, medical, and public safety markets.

Apple to Go Greener—Foxconn Plans to Follow

Apple (Cupertino, CA) has launched two new programs aimed at reducing the carbon footprint of its manufacturing partners in China. The programs aim to avoid 20 million metric tons of greenhouse gas pollution in the country between now and 2020.

Apple also states in a press release that construction of its 40-megawatt solar project in the Sichuan Province is now complete. According to the company, the solar installations will produce more electricity than Apple's offices and retail stores use in China.

Apple will expand its clean-energy investments in China; it's planning to build more than 200 megawatts of solar projects in the northern, eastern, and southern grid regions of China.

At the same time, the company is launching an initiative to drive its manufacturing partners to become greener and more energy efficient and to use clean energy in their manufacturing operations.

As part of this, Apple's manufacturing partner **Foxconn** (Taiwan) will construct 400 megawatts of solar, starting in the Henan Province, by 2018. Foxconn has pledged to generate as much clean energy as its Zhengzhou factory consumes in final production of iPhones.

Foxconn Diversifies into Banking Services in China

Foxconn Technology Group is diversifying into the banking sector by providing loans to suppliers of electronic components in China. The company has plans to repackage the existing loans, given in the past year, into financial products during the coming two years and sell them to investors directly. Foxconn now plans to expand its business in financial services, robotics, e-commerce, and electronic component manufacturing, which have higher margins of profit.

Season Group Appoints VP of Global Supply Chain

EMS provider **Season Group** (San Antonio, TX) has announced that it has appointed Joseph Likens as Vice President of Global Supply Chain.

Likens has been with the Season Group for five years and in the EMS environment for more than 20 years, working with organizations such as Benchmark Electronics, Sanmina-SCI, and ACT Manufacturing.

Foxconn Builds Czech Technology Center

Over the next few years, EMS giant **Foxconn** intends to expand its operations in the Czech Republic. The company plans to invest over CZK1 billion (around €7 million) in its Pardubice facility. With a project called "Smart City," which is also supported by the Pardubice city council, Foxconn will bring new life to the former Tesla complex, writes idnes.cz.

The 14-hectare area is planned to include a technology center and factory space, but also host residential as well as recreational areas, the report continues.

Flex to Acquire Wink

Flex has entered into an agreement to acquire **Wink**, a smart home platform that enables smart products to work together, and to connect and communicate globally.

Upon completion of the acquisition, Flex will enhance its strategy of driving the Intelligence of Things. Wink improves the functionality and

usefulness of disparate devices in the home by allowing them to communicate with each other, while enhancing usability through a shared common interface in the Wink mobile app. Flex has been a strategic partner to Wink, serving as its primary supplier of hardware and firmware, including the Wink HUB and Wink Relay, which include core IP developed by Flex. After the acquisition, Wink will remain a separate entity and corporation, with its own management structure for day-to-day activities and operations.

Publisher: Randall Sherman

Editor: Anna Reynolds

Research Analyst: Vivek Sharma

Board of Advisors: Michael Thompson, CEO, I. Technical Services; Ron Keith, CEO, Riverwood Solutions; Andy Leung, CEO, VTech Communications Ltd.

Manufacturing Market Insider is a monthly newsletter published by New Venture Research Corp., 337 Clay St., Suite 101, Nevada City, CA 95959. Phone (530) 265-2004, Fax (530) 265-1998. Copyright 2015 by NVR™. ISSN 1072-8651

The information and analysis presented here are based on sources believed to be reliable, but content accuracy is not guaranteed. The publisher shall not be held liable for any business decisions influenced by this publication.

E-mail: rsherman@mfgmkt.com

Website: www.newventureresearch.com

Subscription Form

I want an electronic subscription to **MMI**. Email me 12 monthly issues (PDF files) for the annual cost of US\$595.

I want a print subscription to **MMI**. Send me 12 printed issues for the annual cost of US\$695.

Payment is enclosed to New Venture Research Corp.

Mail or fax to: NVR Corp., 337 Clay St., Nevada City, CA 95959. Phone (530) 265-2004, Fax (530) 265-1998.

Please bill me. Charge my credit card (see below).

Name _____ Title _____

Company _____ Phone _____

Street Address _____ Fax _____

City/State/ZIP _____ Email _____

MasterCard _____ Visa _____ AMEX _____ Number _____ Expires _____